UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,430	01/23/2004	Geoffrey B. Rhoads	P0929	6076

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DIGIMARC CORPORATION
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EXAMINER
KRASNIC, BERNARD

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 February 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-11</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-11</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All b)☐ Some * c)☐ None of:

         1.☒ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Priority

1.   New Claim 10 is not entitled to the benefit of the prior-filed application(s)

corresponding to CON 08/508,083 7/27/1995 and PCT/US94/13366 11/16/1994

because the Examiner has not found support for the claimed invention for example of

"wherein the Fourier transform comprises a Fourier-Mellin transform" as claimed in new

claim 10 of the current application. The Examiner has decided that new claim 10 is

entitled to the benefit of the current applications filing date of 01/23/2004. **Therefore**

new claim 10 is entitled to the priority benefit of 01/23/2004 and not 07/27/1995

and not 11/16/1994. If the Applicant does choose to argue this decision, it is essential

that the Applicant clearly point out where the support is found and how the interpretation

is being conceived.

Response to Arguments

2.   The amendment filed 2/29/2008 have been entered and made of record.

3.   The Applicant has included newly added claim(s) 9-11.

4.   The application has pending claim(s) 1-11.

5.   In response to the amendments filed on 2/29/2008:

The Right to Priority have been shown to be supported by the Applicant [see Applicant's Amendment After Non-Final dated 2/29/2008, page 5, "Priority Questions"] and therefore the Examiner agrees that such claim language "the provided substrate being steganographically encoded with plural-bit auxiliary data" is indeed supported by the priority dates.

The Examiner withdraws the objections to the specifications.

The "Claim rejections under 35 U.S.C. 101" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 101.

6.   The Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection because the Applicant has amended independent claim(s) 1 by claiming "using an electronic application" [and further amendments as well] and because the Applicant has included new claims 9-11.

7.   Applicant's arguments filed 2/29/2008 have been fully considered but they are not persuasive.

The Applicant alleges, "Claim 1 is amended without prejudice …" in page 7 and "This type of imaging is different …" in page 7, and states respectively that Stephany's type of imaging is using UV/IR filters and/or special illuminations and does not disclose the efficiencies of normal ambient visible light detectable through visible light imaging without the use of any special lens for this type of visible light imaging. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., normal ambient

visible light detectable through visible light imaging without the use of any special lens

for this type of visible light imaging) are not recited in the rejected claim(s). Although

the claims are interpreted in light of the specification, limitations from the specification

are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057

(Fed. Cir. 1993). Also, Stephany does disclose in the embodiment that the bar code

scanning system may provide light at visible wavelengths to read the invisible bar code

[see col. 2, lines 59-61, col. 3, lines 49-65, and specifically col. 3, lines 60-62; providing

light at visible wavelengths]. Therefore the Examiner maintains his rejection and

therefore the claims are still not in condition for allowance and are still not patentably

distinguishable over the prior art references.

The Applicant alleges, "The Office Action also recognizes ..." in page 7, and

states respectively that DeAngelis does not discuss storing at least some of the plural-

bit auxiliary data in association with data identifying a location at which the electronic

version of the document is stored. The Examiner disagrees because Stephany has

taught steganographically encoding the plural-bit auxiliary bar code on a package, mail,

or magazine, and DeAngelis further teaches that a bar code system which stores in

memory a library correlating the particular bar code to its particular item [each item of

merchandising goods] to be identified to be able to locate the representation and

meaning of the bar code when the bar code is read (see DeAngelis, abstract, col. 1,

lines 11-16, col. 2, lines 22-28 and 50-60, the bar code [the bar code is the electronic

version] which represents information providing document identification for a specific

merchandising item [from a catalog for example] is scanned with a wand bar code

reader that reads the bar code from the printed material and using the processor
correlates the plural auxiliary bar code data to a location in this ROM and RAM memory
with the corresponding recognition data for each specific merchandising item).
Therefore the Examiner maintains his rejection and therefore the claims are still not in
condition for allowance and are still not patentably distinguishable over the prior art
references.

The Applicant alleges, "Claims 3, 5, and 6 ..." in pages 7-8, and states
respectively that DeAngelis doesn't disclose that the storing includes storing in a
registry database maintained by an operating system of a computer system (claim 3);
storing is performed by a computer system operating system (claim 5); storing is
performed by a printer driver employed in printing the document onto a substrate (claim
6). To clarify the 35 U.S.C. rejection toward claims 1 and 3-6, the Examiner took Official
Notice when making the obvious rejection statements and used the DeAngelis
reference just as one example for the Official Notice. In regards to claim 3, DeAngelis
teaches the storing of claim 1 including storing in a registry database maintained by an
operating system of a computer system (see DeAngelis, abstract, col. 1, lines 11-16,
col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary bar code data
to a location in this ROM and RAM memory with the corresponding recognition data for
each specific merchandising item, this processor is considered to be part of the
computer operating system which essentially has a database for the different
merchandising items with their corresponding bar codes). In regards to claim 4,
DeAngelis similarly teaches the storing is performed by the application program (see

DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the processor

correlates the plural auxiliary bar code data to a location in this ROM and RAM memory

with the corresponding recognition data for each specific merchandising item, this

processor [which runs by a program] is considered to be part of the computer operating

system). In regards to claim 5, DeAngelis similarly teaches the storing of claim 1 is

performed by a computer system operating system (see DeAngelis, abstract, col. 1,

lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary

bar code data to a location in this ROM and RAM memory with the corresponding

recognition data for each specific merchandising item, this processor is considered to

be part of the computer operating system). In regards to claim 6, DeAngelis teaches

the storing of claim 1 is performed by a printer driver employed in printing the document

onto a substrate (see DeAngelis, col. 1, lines 11-16, col. 2, lines 22-28, the catalog for

example with the merchandising items and with their corresponding bar codes *had to be

printed by a computer system which is connected to a printer system* which essentially

stores the bar code electronic version providing document identification for a specific

merchandising item). To further clarify the Official Notice toward claim 6, the prior art

reference Petigrew et al [US 5,206,490] discloses a bar code printer for printing bar

codes that are at the extremes of the visible light spectrum and that the printed ink is

either invisible to the human eye or barely distinguishable over the background (see

Petigrew, col. 2, lines 37-53, col. 3, lines 64-65, ink jet digital printers have drivers and

memory components and therefore this invisible bar code printer needs to store what is

to be printed which is the invisible bar code). Therefore the Examiner maintains his

rejection and therefore the claims are still not in condition for allowance and are still not patentably distinguishable over the prior art references.

The Applicant alleges, "New Claims 9 and 10 ..." in page 8 and states respectively that the prior art does not render the new claims obvious. The Examiner agrees but has brought a new prior art reference Sheng ("Experiments on pattern recognition using invariant Fourier-Mellin descriptors", 1986 Optical Society of America, pages 771-776). Further discussions are addressed in the art rejections below.

Therefore, claims 1-11 are not in condition for allowance and are not patentably distinguishable over the prior art references.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephany (US 5,331,140).

Re Claim 1: Stephany discloses a method comprising using an electronic application program / bar code printing and reading system to compose an electronic version of a document (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code printing and reading system creates a bar code which represents information providing document identification); providing the document onto a substrate / paper type (see col. 1, lines 6-

11, 23-28, 32-49, 60-64, the bar code representing the document is printed on a

package, mail, or magazine), the provided substrate being steganographically encoded

with plural-bit auxiliary data (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code

which is plural-bit auxiliary data is steganographically or invisibly printed, the invisible

bar code is not visible to the human eye), the steganographically encoded plural-bit

auxiliary data is substantially imperceptible to casual human inspection, but is

detectable through visible light imaging of the document and processing of image data

thereby produced (see col. 1, lines 60-64, col. 2, lines 59-61, col. 3, lines 49-65, and

specifically col. 3, lines 60-62 [providing light at visible wavelengths], the bar code

scanning system may provide light at visible wavelengths to read the invisible plural-bit

auxiliary bar code).

   Although Stephany fails to specifically disclose storing at least some of the plural-

bit auxiliary data in association with data identifying a location at which the electronic

version of the document is stored, [*the Examiner takes Official Notice that*] it would have

been obvious to one of ordinary skill in the art at the time the invention was made to

have such a feature because any bar code system needs some type of memory storing

a library correlating the particular bar code to its particular item [each item of

merchandising goods] to be identified in order to be able to locate the representation

and meaning of the bar code when the bar code is read [DeAngelis [US 4,654,482] is

one example showing how a bar code read system uses a wand to read a bar code and

correlate it to a specific item] (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines

22-28 and 50-60, the bar code [the bar code is the electronic version] which represents

information providing document identification for a specific merchandising item [from a

catalog for example] is scanned with a wand bar code reader that reads the bar code

from the printed material and using the processor correlates the plural auxiliary bar code

data to a location in this ROM and RAM memory with the corresponding recognition

data for each specific merchandising item).

Re Claim 2: Stephany further discloses the providing includes steganographically

encoding the provided substrate with said plural-bit auxiliary data (see col. 1, lines 6-11,

23-28, 32-49, 60-64, the bar code representing information providing document

identification is steganographically or invisibly printed on a package, mail, or magazine,

the invisible bar printed bar code is not visible to the human eye).

Re Claims 3-6: Although Stephany fails to specifically disclose said storing includes

storing in a registry database maintained by an operating system of said computer

system, wherein said storing is performed by the application program, said storing is

performed by a computer system operating system, or wherein said storing is performed

by a printer driver employed in printing the document onto paper, [the Examiner takes

Official Notice that] it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have such features because any bar code system

needs some type of memory [the memory may be a database run by a computer

operating system, the memory may be performed by a program within the computer

operating system, the memory may be within the driver of the printer itself, etc.] storing

a database or library correlating the particular bar code to its particular item to be
identified in order to be able to locate the representation and meaning of the bar code
when the bar code is read (DeAngelis [US 4,654,482] is one example showing how a
bar code read system uses a wand to read a bar code and correlate it to a specific item
and showing different means of storage). In regards to claim 3, DeAngelis teaches the
storing of claim 1 including storing in a registry database maintained by an operating
system of a computer system (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines
22-28 and 50-60, the processor correlates the plural auxiliary bar code data to a
location in this ROM and RAM memory with the corresponding recognition data for each
specific merchandising item, this processor is considered to be part of the computer
operating system which essentially has a database for the different merchandising items
with their corresponding bar codes). In regards to claim 4, DeAngelis similarly teaches
the storing is performed by the application program (see DeAngelis, abstract, col. 1,
lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary
bar code data to a location in this ROM and RAM memory with the corresponding
recognition data for each specific merchandising item, this processor [which runs by a
program] is considered to be part of the computer operating system). In regards to
claim 5, DeAngelis similarly teaches the storing of claim 1 is performed by a computer
system operating system (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-
28 and 50-60, the processor correlates the plural auxiliary bar code data to a location in
this ROM and RAM memory with the corresponding recognition data for each specific
merchandising item, this processor is considered to be part of the computer operating

system). <u>In regards to claim 6</u>, DeAngelis teaches the storing of claim 1 is performed by

a printer driver employed in printing the document onto a substrate (see DeAngelis, col.

1, lines 11-16, col. 2, lines 22-28, the catalog for example with the merchandising items

and with their corresponding bar codes *had to be printed by a computer system which is*

connected to a printer system which essentially stores the bar code electronic version

providing document identification for a specific merchandising item). To further clarify

the Official Notice toward claim 6, the prior art reference Petigrew et al [US 5,206,490]

discloses a bar code printer for printing bar codes that are at the extremes of the visible

light spectrum and that the printed ink is either invisible to the human eye or barely

distinguishable over the background (see Petigrew, col. 2, lines 37-53, col. 3, lines 64-

65, ink jet digital printers have drivers and memory components and therefore this

invisible bar code printer needs to store what is to be printed which is the invisible bar

code).

Re Claim 7: Stephany further discloses the steganographic encoding of the provided

substrate comprises subtle variations in the luminance of the document (see col. 1, lines

60-64, col. 3, lines 60-65, invisible bar codes could be printed in the visible light such as

while still being invisible to the casual human eye inspection).

Re Claim 8: Stephany further discloses the steganographic encoding takes the form of

tiny elements of ink or toner distributed in a pattern so light as to be essentially un-

noticeable (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the printer prints the

steganographic or invisible bar code that is invisible to the human eye).

10.   Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Stephany (US 5,331,140) in view of Sheng ("Experiments on pattern recognition using
invariant Fourier-Mellin descriptors", 1986 Optical Society of America, pages 771-776).
The teachings of Stephany have been discussed above.

Re Claim 9: However Stephany doesn't specifically suggest wherein the plural-bit
auxiliary data is encoded such that decoding of the encoded plural-bit auxiliary data
relies on a Fourier transform that produces data in which scale and rotation can be
ignored.

Sheng discloses the plural-bit auxiliary data / pattern [the pattern being
Stephany's bar code data] is encoded such that decoding of the encoded plural-bit
auxiliary data relies on a Fourier transform / Fourier-Mullin that produces data in which
scale and rotation can be ignored / scale and rotation invariant (see Sheng, abstract, to
achieve scale and rotation invariant pattern recognition, the pattern is transformed by
the Fourier-Mellin transform).

Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify Stephany using Sheng's teachings by including
the Fourier transform manipulation of the Stephany's bar code pattern in order to have
the pattern become scalably and rotationally invariant (see Sheng, abstract).

Re Claim 10: Sheng further discloses the Fourier transform comprises a Fourier-Mellin

transform / Fourier-Mellin (see Sheng, abstract)

11.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Stephany (US 5,331,140) in view of Petigrew et al (5,206,490).

Re Claim 11: Stephany discloses hiding bar codes on paper through printing *but* doesn't

specifically suggest that the plural-bits of auxiliary data are steganographically encoded

with *digital watermarking*.

    Petigrew discloses the plural-bits of auxiliary data / bar code data are

steganographically encoded / invisible to the human eye with digital watermarking /

printing with ink jet digital printer (see Petigrew, col. 2, lines 33-53, col. 3, lines 64-65,

the bar code is invisibly printed on the paper with an ink jet digital printer and this

computer system and ink jet digital printer show that it is essentially digital

watermarking).

    Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Stephany using Petigrew's teachings by

including the ink jet digital printer and microcomputer system in order to

steganographically encode digitally / digital watermarking the bar code onto a paper

material (see Petigrew, col. 2, lines 33-53, col. 3, lines 64-65).

Conclusion

12.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

13.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-

1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every

other Friday 8:00am-3:00pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bhavesh M. Mehta can be reached on (571) 272-7453. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624
Bernard Krasnic
June 23, 2008